

NEOTROPICAL TINEIDAE, IV: THREE NEW *ACROLOPHUS*
SPECIES FROM CUBA AND THE REDISCOVERY OF
ACROLOPHUS NIVEIPUNCTATUS WALSINGHAM (LEPIDOPTERA)

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Abstract.—Examination of a small collection of *Acrolophus* in the collections of the Instituto de Zoología in Havana, Cuba, has revealed the presence of three new species (*A. fuscisignatus*, *A. guttatus*, and *A. basistriatus*) and the first specimens collected of *A. niveipunctatus* Walsingham since 1891. All species are fully described and illustrated.

In 1980, the Academia de Ciencias de Cuba and Smithsonian Institution signed an agreement designed to promote cooperative research in the natural sciences. A vital part of this agreement encourages an exchange of scholars between our two countries. In February 1981, I was privileged to be one of the first entomologists to participate in this program.

Although February was certainly not the most opportune season for Lepidoptera, a respectable sample of specimens, including 28 species of Tineidae, was collected at five sites in western Cuba over an 11 day period. The purpose of this brief account is not to report upon what is hoped to be only the first of several trips to Cuba, but instead upon a small but interesting series of *Acrolophus* found in the collections of the Instituto de Zoología in Havana. Most of the specimens were collected by Pastor Alayo and associates; all but one species were previously undescribed; and none was encountered during my brief excursion.

Only five species of *Acrolophus* have been described from Cuba (Davis, 1984). Because the unique holotypes of four of these (*A. dimidiella* Wlsm., *A. niveipunctatus* Wlsm., *A. noctuina* Wlsm., *A. vitellus* Poey) are now lost, their identities have been un-

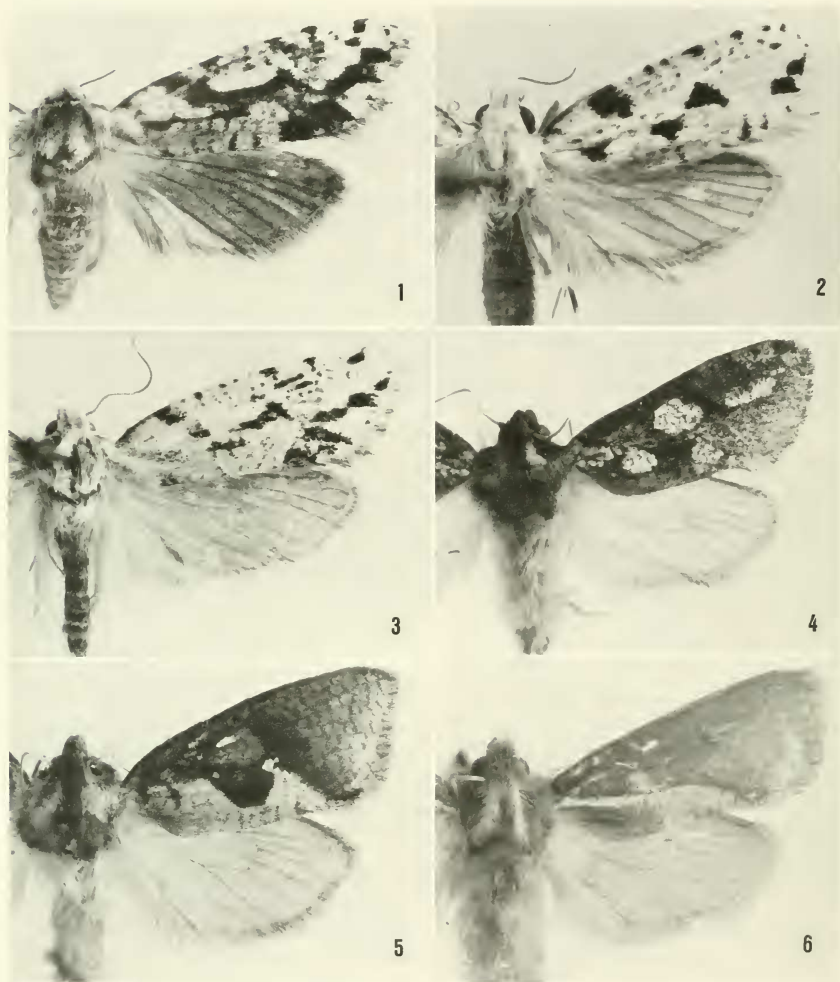
clear. Fortunately, one of the four species found in the collections of the Instituto de Zoología has been determined as conspecific with *A. niveipunctatus*. At present, these represent the only examples of this species collected in nearly a century, which merely indicates again how poorly known the Cuban microlepidoptera are. It is further interesting to note that all of the species treated herein, with the exception of *A. fuscisignatus*, new species, are members of the North American *plumifrontellus* group. This group, which was previously known to contain only *A. plumifrontellus* Clemens (Hasbrouck, 1964), is characterized primarily by the bifid apex of the male valva.

Institutional acronyms referred to in this paper are: IZAC for Instituto de Zoología, Academia de Ciencias de Cuba, Havana; and USNM for National Museum of Natural History (formerly United States National Museum), Smithsonian Institution, Washington, D.C., USA.

Acrolophus fuscisignatus Davis,
NEW SPECIES

Figs. 1-3, 7-10, 23

Adult (Figs. 1-3).—Length of forewing: ♂, 10.0-14.5 mm; ♀ 15-17 mm. A relatively large species with strongly recurved labial



Figs. 1-6. Adults. 1, *Acrolophus fuscisignatus*, paratype male, Pico Turquino, length of forewing 17.7 mm. 2, *A. fuscisignatus*, paratype male, Moa, length of forewing 10 mm. 3, *A. fuscisignatus*, paratype male, Pico Turquino, length of forewing 15.6 mm. 4, *A. guttatus*, holotype male, Finca La Ciega, length of forewing 12 mm. 5, *A. niveipunctatus*, male, Hongolosongo, length of forewing 13.9 mm. 6, *A. basistriatus*, holotype male, Cuabal de Gulindo, length of forewing 12.5 mm.

palpi in the male. The forewing is white, variously marked with fuscous.

Head: Vestiture mostly white with a fringe of fuscous hairs around eyes. Eye smooth with long dark lashes from posterior rim. Antenna approximately 0.4–0.5 the length of forewing, 61–64 segmented; scape entirely white; flagellum subserrate with grayish-white scales dorsally and often indistinctly banded with light brown; naked ventrally except for dense, very short whitish sensory setae. Labial palpus 3 segmented, extremely long in male and recurved over thorax to metanotum; relatively short in female, length about $2 \times$ diameter of eye and porrect; vestiture mostly white with lateral surfaces of basal segment dark fuscous.

Thorax: Pronotum mostly white, sometimes with heavy suffusion of fuscous anteriorly and medially. Venter white. Forewing white, variously marked by fuscous as shown in Figs. 1–3; most specimens with a prominent sinuate fuscous band extending longitudinally for most of the length of the wing along the medial vein; cilia white with scattered patches of fuscous. Hindwing uniformly pale to dark gray; cilia sometimes paler and with whitish apices. Foreleg fuscous to buff dorsally, white ventrally. Midleg slightly paler; femur brown dorsally; tibia mostly white usually with two dorsal brown spots; tarsi brown with white banding. Hindleg pale brown to nearly white dorsally, white ventrally.

Abdomen: Pale gray to buff dorsally, white ventrally.

Male genitalia: As shown in Figs. 7–10. Uncus relatively deeply bifid. Gnathos entire, consisting of a broadly rounded lobe. Valva simple, straight with apex evenly rounded. Aedoeagus moderately short, about two-thirds the length of valva, with an elongate cluster of 30 or more minute spines extending from middle to apex.

Female genitalia: As shown in Fig. 23. Seventh sternum evenly rounded posteriorly. Bursa copulatrix short, approximately

$1.5 \times$ the length of posterior apophyses; ductus bursae very short, with heavily furrowed walls, corpus bursa simple, without signum or spicules.

Immature stages unknown.

Holotype.— δ , Trinidad Mts., San Blas, Cienfuego Province, Cuba; 5 May 1932, S. C. Bruner and A. Otero, E.E.A. Cuba Ento. No. 9967, USNM Type No. 100676 (USNM).

Paratypes.—CUBA: Specific locality unknown: 1 δ , W. Schaus Coll. (USNM). Camaguey Prov. [?]: Las Animas, Sierra Rangel, 1500 ft. [457 m]; 1 δ , Aug. 1922, H. Roberto (USNM). Cienfuego Prov.: Same data as holotype; 2 δ (USNM). La Habana Prov.: Arroyo Nararrjo; 1 δ , 13 May 1934, L. C. Scaramuzza (USNM). Santiago de las Vegas; 1 φ , 15 May 1934, A. R. Otero (USNM); 1 φ , 24 May 1932, A. R. Otero, E.E.A. Cuba Ento. No. 9967 (USNM). Holguin Prov.: Moa, El Johnson; 1 δ , June 1954, Zayas & Alayo (IZAC). Santiago de Cuba Prov.: Pico Turquino; 3 δ , 1 φ , June 1963; Alayo and Garcia (IZAC, USNM); 1 δ , June 1964, Garcia (IZAC); 2 δ , 10–29 June 1936, J. Aoulla (USNM). Sierra Maestra, 1000 ft. [305 m]; 2 δ , 7–21 June 1930, O. Querci (USNM).

Host.—Unknown.

Flight period.—May to August. Most records indicate a May–June emergence, although this may be only a collecting artifact.

Distribution.—This species appears to be widely distributed over Cuba, occurring at rather low elevations to as high as 450 m. It may also occur in the Bahamas, but the single male examined in the USNM from Mangrove Cay, Andros Island, is in too poor condition (rubbed and without genitalia) to confirm.

Etymology.—The specific name is derived from Latin *fuscus* (dusky, dark) and *signatus* (mark, stamp) in reference to the forewing markings.

Discussion.—This species, with its white forewings heavily streaked with fuscous, ap-

pears distinct from all other West Indian *Acrolophus*. Consequently, its nearest affinities remain uncertain, although the male genitalia closely resemble a few currently unnamed species from the Virgin Islands.

The forewing pattern can vary considerably from the most common expression (Fig. 1) in which a heavy, sinuate streak of dark fuscous extends from the basal fourth of the costa through the discal cell to the termen. The smallest male examined (Fig. 2) from Holguin Province possesses the most reduced markings but exhibited genitalia inseparable from the typical form (Fig. 1).

Acrolophus guttatus Davis,

NEW SPECIES

Figs. 4, 11–14

Adult (Fig. 4).—Length of forewing: ♂, 12.0–12.5 mm. A moderately large species with strongly recurved labial palpi in the male. The forewing is reddish brown marked by 4–5 large, reticulated whitish spots.

Head: Vestiture densely hairy, brown where exposed; frons and vertex largely hidden by labial palpi. Eye hairy; lashes not evident. Antenna approximately $0.5 \times$ the length of forewing, 56–59 segmented; scape brown dorsally, pale buff to white ventrally; flagellum laminate, with pale buff to white scales dorsally; naked ventrally except for dense, very pale, short sensory setae. Labial palpus 3 segmented, extremely long in male and recurved over thorax to metanotum; vestiture brown with lateral portions of distal half mostly suffused with pale buff to white.

Thorax: Pronotum brown with scattered, indistinctly white tipped scales. Tegula dark brown. Venter pale buff to white, very hairy. Forewing predominantly orange brown with 4–5 large variegated whitish spots arranged as in Fig. 4; each spot mostly cream colored with small scattered patches of silvery-white scales and a reticulate pattern of smaller orange scales; fringe brown. Hindwing pale gray with fringe only slightly darker. Foreleg and midleg brown dorsally, pale buff to

nearly white ventrally. Hindleg paler, mostly whitish buff with spurs and tarsi brown.

Abdomen: Pale whitish gray dorsally, slightly darker, more buff ventrally.

Male genitalia: As shown in Figs. 11–14. Uncus shortly bifid. Gnathos divided into a pair of elongate, rounded lobes. Valva divided less than a third its length at apex into a pair of similar, nearly straight lobes. Aedeagus moderately stout, about two-thirds the length of valva, and without cornuti.

Female and immature stages unknown.

Holotype.—♂. Finca La Ciega, Camaguey Province, Cuba; 18 June 1955, P. Alayo, at light (IZAC).

Paratypes.—Cuba: Pinar del Rio Province: Guanahacabibes Peninsula: Cabo Corrientes thickets: 1 ♂, 15 May 1956, P. Alayo, at light (USNM).

Host.—Unknown.

Flight period.—May to June.

Distribution.—Known only from two disjunct localities, at the western tip of Cuba and from east-central Cuba.

Etymology.—The specific name is derived from the Latin *guttatus* (spotted, speckled) in reference to the conspicuous spotted pattern on the forewing.

Discussion.—The presence of 4 to 5 large, reticulated whitish spots on the forewing of this species readily distinguishes it from all other *Acrolophus*. The divided valva in the male genitalia amply demonstrates its affinities to the *plumifrontellus* group. The relatively straight, unswollen cucullar lobe and the absence of discernible cornuti is diagnostic of the species.

Acrolophus niveipunctatus

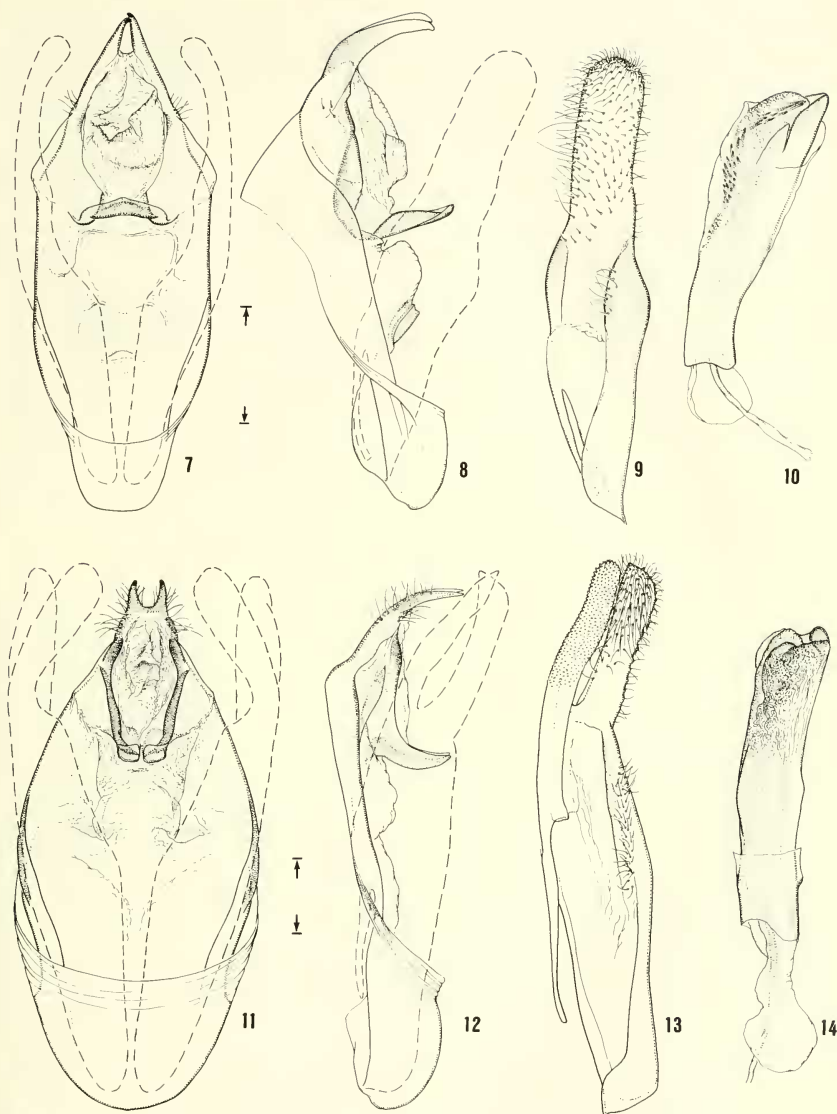
Walsingham

Figs. 5, 15–18

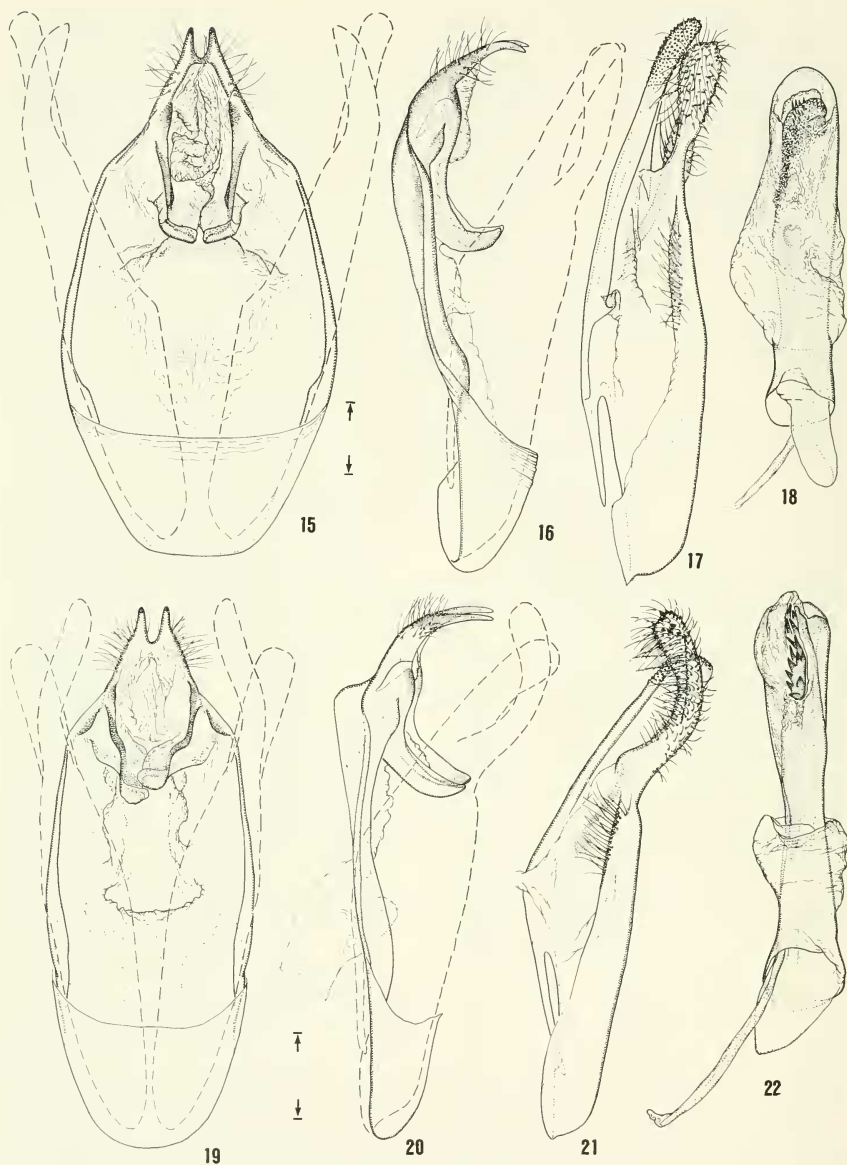
Acrolophus niveipunctata Walsingham, 1892: 513; Davis, 1984: 20, no. 113.

Acrolophus niveipunctatus Walsingham, 1897: 174.

Adult (Fig. 5).—Length of forewing, ♂, 13–14 mm. A moderately large species with



Figs. 7-14. Male genitalia. 7, *Acrolophus fuscisignatus*, ventral view. 8, Lateral view. 9, Lateral view of valva. 10, Aedeagus. 11, *A. guttatus*, ventral view. 12, Lateral view. 13, Lateral view of valva. 14, Aedeagus. All scales = 0.5 mm.



Figs. 15-22. Male genitalia. 15, *Acrolophus niveipunctatus*, ventral view. 16, Lateral view. 17, Lateral view of valva. 18, Aedeagus. 19, *A. basistriatus*, ventral view. 20, Lateral view. 21, Lateral view of valva. 22, Aedeagus. All scales = 0.5 mm.

strongly recurved labial palpi in the male. The forewing is pale reddish brown with a whitish-buff colored anal area possessing a bicrenulate anterior margin bordered by an interrupted line of broad, white scales.

Head: Vestiture densely hairy, reddish brown where exposed; frons and vertex of male largely covered by labial palpi. Eye hairy with long lashes. Antenna approximately $0.5 \times$ the length of forewing, 60–62 segmented; scape reddish brown dorsally, buff to white ventrally; flagellum laminate, with pale buff to white scales dorsally, naked ventrally except for dense, very pale, short sensory setae. Labial palpus 3 segmented, extremely long in male and recurved over thorax to metanotum. Vestiture dark reddish brown over basal two-thirds and apex; subapical region with white-tipped, pale buff scales laterally.

Thorax: Pronotum generally pale brown with a mixture of piliform, dark brown-tipped scales and paler, broader, white-tipped scales. Tegula reddish brown. Venter mostly reddish brown, very hairy. Forewing antierad of CuA dark reddish brown, gradually fading to pale buff along subterminal margin; anal area posteriad of CuA contrastingly pale gray to buff except for dark reddish-brown suffusion across base of anal area and a semicircular protrusion below middle of wing from Cu; margin between the two areas continues obliquely to tornus along CuA2; also situated disjunctly along this margin is a thin line of broad, silvery-white scales along base of CuA and more distally along CuA2 to tornus but interrupted medially by the semicircular lobe of dark scales; cilia dark reddish brown. Hindwing uniformly pale grayish brown except for slightly darker cilia. Foreleg and midleg reddish brown dorsally, buff colored ventrally. Hindleg much paler, pale buff with mixture of indistinctly white-tipped scales; spurs and tarsi more brown.

Abdomen: Pale gray dorsally; reddish brown ventrally.

Male genitalia: As shown in Figs. 15–18.

Uncus shortly bifid. Gnathos divided into a pair of elongate rounded lobes. Valva divided less than a third its length at apex into a pair of straight lobes; ventral lobe (cuculus) with slender base and slightly enlarged apex. Aedoeagus moderately broad, about $0.75 \times$ the length of valva; a cluster of 10–12 minute spines present near apex.

Female and immature stages unknown.

Type.—Holotype, δ . "Museum Staudinger," present deposition unknown.

Type locality.—Cuba.

Host.—Unknown.

Flight period.—May to June.

Distribution.—Known only from the Sierra Maestra of Santiago de Cuba Province.

Material examined.—3 δ . CUBA: Santiago de Cuba Prov.: Honglosongo, Cobre, Loma de Gato; 1 δ , 20 June 1952 (IZAC). Gran Piedra, Caney; 1 δ , June 1954, Zayas and Alayo (IZAC). Gran Piedra Mt., Sierra Maestra; 1 δ , 30 May 1959, P. Alayo, at light (USNM).

Discussion.—The discovery of the above specimens in the Instituto de Zoología de Cuba is significant because it establishes the identity and relationship of a previously named but otherwise unknown species. Most of the uncertainty surrounding *A. niveipunctatus* is caused by the absence of the type specimen, present whereabouts of which remains unknown. All specimens bearing this name in the collections that I have examined were found to be misidentified. Fortunately, this species possesses a rather distinctive wing pattern in which an interrupted series of broad white scales are most diagnostic. This pattern, as carefully described by Walsingham, agrees completely with the specimens before me. It should be noted that even if the male holotype is found, it would still be impossible to determine the specific group relationship of *niveipunctatus* solely on that specimen, assuming Walsingham's original statement is correct: "Abdomen missing. (a female abdomen is stuck on to this specimen)."

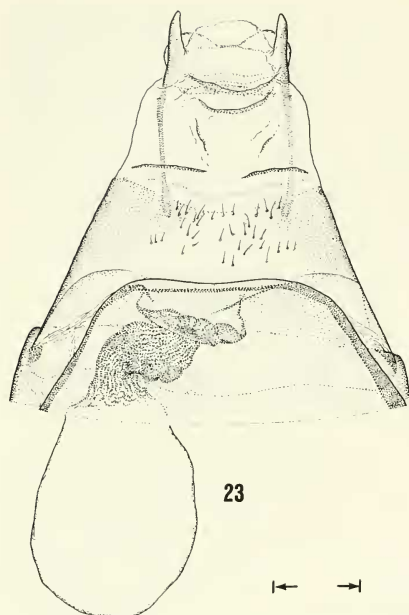


Fig. 23. *Acrolophus fuscisignatus*, female genitalia, ventral view. Scale = 0.5 mm.

***Acrolophus basistriatus* Davis,**

NEW SPECIES

Figs. 6, 19–22

Adult (Fig. 6).—Length of forewing: ♂, 11–12 mm. A moderately large species with strongly recurved labial palpi in the male. The forewing is reddish brown with a prominent white streak extending along the base of the cubital vein.

Head: Vestiture densely hairy, reddish brown with white-tipped piliform scales where exposed; frons and vertex of male largely hidden by labial palpi. Eye hairy with long lashes. Antenna approximately $0.4 \times$ the length of forewing, 59–62 segmented; scape reddish brown dorsally, mostly white, irrorated with reddish-brown scales ventrally; flagellum laminate, with light brown scales dorsally, naked ventrally, except for

dense, very pale, short sensory setae. Labial palpus 3 segmented, extremely long in male, recurved over thorax to metanotum. Vestiture similar to head, consisting of dense piliform scales of reddish brown with minute white tips.

Thorax: Pronotum similar to head in color and vestiture. Venter paler in color, pale reddish brown to buff. Forewing uniformly reddish brown except for a prominent white streak extending along the base of CuA; distal half of streak tends to diffuse into anal area. Cilia consisting of very short, broad scales with dull white tips. Hindwing uniformly pale brown. Foreleg reddish brown with paler, more wooly vestiture ventrally. Midleg similar to foreleg in color. Hindleg much paler in color, pale buff with indistinctly white-tipped scales dorsally; vestiture mostly white ventrally.

Abdomen: Densely covered with light brown wooly scales dorsally and ventrally; usually a concentration of darker brown scales along mid-venter.

Male genitalia: As shown in Figs. 19–22. Uncus shortly bifid. Gnathos divided into a pair of elongate, rounded lobes. Valva divided about one-third its length at apex into a straight, relatively broad, costal lobe and a more slender, strongly curved cucullar lobe. Aedoeagus moderately slender, nearly as long as valva, and with a central apical mass of approximately 12–14 short spines.

Female and immature stages unknown.

Holotype.—♂. Cuabal de Gulindo, Valle del Yumuri, Matanzas, Cuba; June 1970, P. Alayo (IZAC).

Paratypes.—Same data as holotype, 5 ♂ (IZAC, USNM).

Host.—Unknown.

Flight period.—June.

Distribution.—Known only from the type locality in Matanzas Province.

Etymology.—The specific name is derived from the Latin *basis* (base, bottom) and *stria* (furrow, line, stripe) in reference to the single white streak along the base of the forewing cubital vein.

Discussion.—*Acrolophus basistriatus* is the only Cuban member of the genus with a whitish streak along the cubital vein. The male genitalia are diagnostic in possessing the largest cornuti and the most curved cucullar lobe (of the valva) of any member of the *plumifrontellus* group.

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